

REMARKS

This Amendment is proposed responsive to the Office Action dated August 30, 2004.

Claims 1-8 are pending in the application. All of the claims stand rejected under 35 U.S.C. 102(b) as being anticipated by both Tanis U.S. Patent No. 5,387,153 (hereinafter Tanis '153), and Tanis U.S. Patent No. 5,413,531 (hereinafter Tanis '531).

Responsive to the rejection of the claims, Applicant respectfully traverses the rejection of all of the claims as being anticipated by both Tanis '153 and Tanis '531, as lacking a prima facie case of anticipation, as neither of those patents disclose or even suggest all of the elements of the extension for a helical flight of a threshing rotor as claimed in independent claims 1 and 6, as those claims presently stand.

While preserving its traversal of the rejection of all of the claims as lacking a prima facie case of anticipation, Applicant additionally proposes to amend independent claims 1 and 6, and dependent claims 2 and 4 which depend from independent claim 1, to even more patentably distinguish the claims over the cited prior art.

Turning to the traversal of claim 1 as it presently stands, that claim is directed to an extension for a helical flight extending around a front inlet end of a rotor of a threshing system of an agricultural combine. The rotor is rotatable in a predetermined rotational direction about a rotational axis therethrough. The flight includes a leading edge extending radially outwardly from the front inlet end of the rotor, and a rearwardly facing helical crop flow surface extending rearwardly from the leading edge at a first predetermined angle of attack relative to a plane perpendicular to the rotational axis, for conveying crop material from adjacent the inlet end of the rotor radially outwardly and rearwardly when the rotor is rotated. Claim 1 requires the extension to be an elongate blade shape member **removably mountable in radially outwardly extending relation along the radially outwardly extending leading edge of the flight**. Applicant respectfully asserts that this feature is absent in both Tanis '153 and Tanis '531. More particularly, referring to Figs. 2 and 3 of Tanis '153, relied on by the Examiner to show

this feature, anti-wrap assembly 50 identified by the Examiner as representing an extension, is not disclosed or even suggested as being removably mountable or in any way positioned in radially outwardly extending relation along the radially outwardly extending leading edge of the helical flights of that rotor, as required in claim 1. And, in Tanis '531, reference number 32 refers to an impeller assembly 32 having a plurality of impeller blades 34 provided at a forward end of the rotor (Tanis '531 patent, column 5, lines 34-37). Applicant can find no extension whatsoever associated with assembly 32 or blades 34 in Tanis '531. For this reason, Applicant asserts that a prima facie case of anticipation is not made with regard to both Tanis '153 and Tanis '531.

Claim 1 additionally requires the blade shape member of the invention to be disposed so as to be located forwardly of the leading edge of the flight with respect to the predetermined rotational direction along at least a substantial portion of a radial extent thereof when mounted thereon, and more particularly defines the blade shape member as having a leading edge having a curved swept back shape, and a **rearwardly facing crop flow surface**. Applicant respectfully asserts that this combination of features is also absent in both Tanis '153 and Tanis '531. Referring to the Tanis '153 patent, at column 5, lines 61-65, each blade 52 of anti-wind assembly 50 includes a material engaging surface 58. Surface 58 is indicated as being preferably configured with a generally concave profile in the direction of rotor rotation so that the crop materials tend to "spin-off" therefrom. Referring both to Figs. 2 and 3 of the Tanis '153 patent, material engaging surface 58 is clearly shown as a **radially outwardly** facing surface, not a rearwardly facing surface as required in claim 1. Referring to Tanis '531, there is no structure even remotely similar to the extension of claim 1 associated with items 32 and/or 34. For these reasons, Applicant also asserts that a prima facie case of anticipation is not made with regard to both Tanis '153 and Tanis '531.

Addressing the proposed amendment to claim, the rearwardly facing crop flow surface extends

rearwardly with respect to the predetermined rotational direction from the leading edge of the blade shape member to the helical crop flow surface of the flight along substantially the entire radial extent of the blade member

and is oriented at a second predetermined angle of attack less than the first predetermined angle of attack, such that when the rotor is rotated in the predetermined direction, the member will accelerate crop material that comes into contact with the leading edge thereof radially outwardly and rearwardly onto the flight and generate a rearwardly directed air flow. Applicant respectfully asserts that this combination of features is not disclosed, taught and/or suggested in either Tanis '153 or Tanis '531. Again, the material engaging surface 58 of the anti-wind assembly of Tanis '153 is radially outwardly facing, not rearwardly facing as required in the proposed amended claim. In Tanis '531, no extension whatsoever is disclosed or suggested. For the foregoing reasons, proposed amended claim 1 is believed to be patentably distinguishable over both Tanis '153 and Tanis '531 and allowable.

Claims 2-5 depend from amended claim 1, and add still further distinguishing limitations thereto. For instance, claim 2 is proposed to be amended to more particularly claim that the leading edge of the blade shape member of the extension extends radially outwardly and rearwardly from adjacent the forward inlet end of the rotor to a radial outermost edge of the flight. In Tanis '153, leading edge 54 of anti-wind assembly is indicated as lying in a plane extending generally normal to the rotational axis 25 of the rotor. See, Tanis '153, column 5, lines 42-45. In Fig. 2 of Tanis '531, no extension is disclosed, and the leading edge of items 32 and 34 are clearly perpendicular to the axis of rotation. Claim 3 and proposed amended claim 4 require that the blade of the extension be separate from a hub mountable to the rotor forwardly of the inlet end thereof, and the blade being mountable to the hub and the helical flight using fasteners. This allows the extensions to be easily removed and replaced without requiring removal of the front bearing supporting the rotor. Neither of the Tanis patents disclose this feature. Further, claim 5 requires the first angle of attack (of the rearwardly facing helical crop flow surface of the flight) be about 135°, and the rearwardly facing crop flow surface of the

blade shape member be oriented at about a 147° angle to the rearwardly facing helical crop flow surface of the flight. This feature is also not disclosed or even possible in Tanis '153, as the material engaging surface of that anti-wind assembly is a radially outwardly facing surface, not a rearwardly facing surface as required in the claim. Tanis '531 is silent as to the angular orientation of impeller assembly 32 and impeller blades 34, but, regardless, no extension is provided in association with either. Accordingly, claims 2 through 5, in combination with base claim 1, are believed to be patentably distinguishable over both Tanis '153 and Tanis '531 and allowable.

Independent claim 6 is directed to a threshing rotor for a threshing system of an agricultural combine, requiring a front inlet section rotatable in a predetermined rotational direction about a rotational axis therethrough and a plurality of helical flights extending rearwardly and oppositely from the rotational direction around the inlet direction, each of the flights including a front leading edge extending radially outwardly from a front end of the front inlet section and a rearwardly extending helical crop flow surface extending rearwardly from the leading edge at a first predetermined angle of attack of about 135° relative to a plane perpendicular to the rotational axis. Claim 6 requires elongate blade shape extensions mounted in radially outwardly extending relation along and forwardly of the leading edge of each of the flights in the predetermined rotational direction, respectively. Applicant respectfully asserts that this combination of features is absent in both Tanis '153 and Tanis '531. Claim 6 further requires the extensions to have a rearwardly facing crop flow surface extending from the leading edge of the extension to the helical crop flow surface of the flight and oriented at a second predetermined angle of attack oriented at about a 147° angle relative thereto, such that when the rotor is rotated in the predetermined direction, the extension will accelerate crop materials that comes into contact with the leading edge thereof radially outwardly and rearwardly to the flight and generate a rearwardly directed air flow. Applicant respectfully asserts that this combination of features is also absent in

both Tanis '153 and Tanis '531. For these reasons, Applicant respectfully asserts that a prima facie case of anticipation is not made with respect to claim 6, as it stands.

The proposed amendment to claim 6 requires that each of the extensions have a leading edge having a curved shape which is swept back both rearwardly and relative to the predetermined rotational direction to adjacent to a radial outermost edge of the flight. This is not disclosed, taught, and/or suggested in either Tanis '153 or Tanis '531, for many of the reasons set forth in regard to proposed amended claim 1 above and incorporated herein by reference. Again, neither Tanis '153 or Tanis '531 disclose elongate blade shape extensions mounted in radially outwardly extending relation along and forwardly of leading edges of flights of a rotor, nor do they disclose or even suggest such extensions having a rearwardly facing crop flow surface positioned and oriented as required in the proposed amended claim. Again, Tanis '153 has only a radially facing, not rearwardly facing material engaging surface 58. And, neither impeller assembly 32 or impeller blades 34 of Tanis '531 are disclosed or contemplated in that patent to have extensions thereon whatsoever.

For the foregoing reasons, proposed amended claim 6 is believed to be patentably distinguishable over both Tanis '153 and Tanis '531 and allowable.

Claims 7 and 8 depend from proposed amended claim 6 and add still further distinguishing limitations thereto. For instance, claim 7 requires the extensions of proposed amended claim 6 to be removable from the flights. This is not disclosed or even suggested in either Tanis' 153 or Tanis '531. Accordingly, claims 7 and 8, in combination with proposed amended base claim 6, are believed to be patentably distinguishable over the cited prior art and allowable.

None of the references cited against the claims in the present application include all of the features and capabilities of the inlet flight extensions as set forth in the claims of the present application as those claims stand and as proposed to be amended herein. Accordingly, withdrawal of the rejections of the claims, or, in the alternative, entry of the

proposed amendments, and favorable action and allowance of all of the claims is therefore respectfully requested.

No fee is believed to be due with submission of the present amendment. The Commissioner is authorized to charge any credit or deficiency to Deposit Account No. 08-1280.

If the Examiner has any further requirements or suggestions for placing the present claims in condition for allowance, Applicant's undersigned attorney would appreciate a telephone call at the number listed below.

Respectfully submitted,

HAVERSTOCK, GARRETT & ROBERTS LLP



Stephen R. Matthews
Reg. No. 34,384
611 Olive Street, Suite 1610
St. Louis, Missouri 63101
(314) 241-4427

November 30, 2004
cni/17313am2.doc